

ABSTRACT

LOW POWER RF RECEIVER WITH REDISTRIBUTION  
OF SYNCHRONISATION TASKS

The low power RF receiver (1) includes an antenna (2), a reception and shaping stage (3) for the radio-frequency signals provided by the antenna, a 12 channel correlation stage (7) receiving intermediate signals (IF) shaped by the reception stage (3), a microprocessor (12) connected to the correlation stage for calculating X, Y and Z position, velocity and time data as a function of data provided by the radio-frequency signals, such as GPS signals, transmitted by the satellites. Each channel includes a correlator (8) associated with a controller (9), which also includes a digital signal processing algorithm to allow all the synchronisation tasks for acquiring and tracking a satellite to be performed autonomously when the channel (7) is set in operation, and to lock onto the satellite. Buffer registers (11) are placed at the interface between the correlation stage (7) and the microprocessor (12) for the mutual transfer of data.

The low power RF receiver may be mounted in the case of a watch and powered by the energy accumulator or battery of said watch.

Figure 1

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